

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A system comprising:
an integrated circuit manufacturing equipment ~~having a wafer processing chamber;~~
a print head having a plurality of nozzles, the print head being configured to
deposit a material on a wafer in the integrated circuit manufacturing equipment; and
~~wafer processing chamber; and~~
a transport mechanism configured to move the print head between a position over
the wafer and another position over a sensor module, [[a]] the sensor module being
configured to receive [[a]] droplets from the nozzles of the print head to allow the nozzles
to be calibrated to dispense a substantially same amount of material, the sensor
comprising:

a first plate and a second plate forming a capacitor, the first plate and the
second plate being disposed to allow the droplet to pass between them; and
an amplifier coupled to the first plate, the amplifier configured to generate
an output signal indicative of a characteristic of the droplet.

Claim 2 (currently amended): The system of claim 1 wherein the sensor module further
comprises:

a bias voltage coupled to the second plate; and
wherein the amplifier includes a charge sensitive amplifier.

Claim 3 (currently amended): The system of claim 2 wherein the sensor module further
comprises an input transistor coupled between the amplifier and the first plate.

Claim 4 (previously presented): The system of claim 1 wherein the characteristic
includes drop mass.

Claim 5 (previously presented): The system of claim 1 wherein the characteristic
includes drop velocity.

Claim 6 (previously presented): The system of claim 1 wherein the print head comprises
an ink-jet print head.

Claim 7 (currently amended): The system of claim 1 wherein the output signal is
employed to calibrate [[a]] the nozzles to have substantially same drop mass, that
~~dispensed the droplet.~~

Claim 8 (cancelled)

Claim 9 (previously presented): The system of claim 1 wherein the output signal is
provided to a signal processing device.

Claim 10 (previously presented): The system of claim 9 wherein the signal processing
device includes a computer.

Claim 11 (currently amended): The system of claim 1 wherein the sensor module is located near a chamber where the wafer is processed ~~processing chamber~~ to allow calibration of the print head.

Claim 12 (canceled)

Claim 13 (currently amended): A system comprising:
an integrated circuit manufacturing equipment;
dispensing means for dispensing a droplet in the integrated circuit manufacturing equipment, the dispensing means including a plurality of nozzles;
sensor means for detecting the droplet; and
circuit means for generating a signal indicative of a characteristic of the droplet[.]; and
transport means for moving the dispensing means from a position over a wafer to a position over the sensor means.

Claim 14 (previously presented): The system of claim 13 wherein the characteristic includes drop mass.

Claim 15 (previously presented): The system of claim 13 wherein the characteristic includes drop velocity.

Claim 16 (currently amended): A method of sensing a droplet characteristic, the method comprising:

dispensing a first droplet from a first nozzle of a print head having a plurality of nozzles;
detecting a presence of the first droplet ~~between two parallel plates;~~
generating ~~an~~ a first output signal indicative of ~~a characteristic~~ a first amount of the droplet;
comparing the first amount of the first droplet to a known good amount;
calibrating the first nozzle of the print head based on the comparison of the first amount to the known good amount ~~output signal;~~ and
using the print head to deposit a material on a wafer.

Claim 17 (canceled)

Claim 18 (currently amended): The method of claim 16 further comprising:
processing the first output signal to sense drop mass, and wherein the first droplet is detected by monitoring for a change in capacitance.

Claim 19 (currently amended): The method of claim 16 further comprising:
processing the first output signal to sense drop velocity, and wherein the first droplet is detected by monitoring for a change in capacitance.

Claim 20 (currently amended): The method of claim 16 further comprising:

calibrating a second nozzle of the print head to dispense a second amount of droplet that is substantially the same as the known good amount. ~~based on the output signal.~~

Claim 21 (currently amended): A system comprising:
a sensor configured to detect a passing material;
an amplifier coupled to the sensor, the amplifier configured to generate an output signal indicative of a characteristic of the material; ~~and~~
a control system configured to generate a tuning signal based on the output signal, the tuning signal being provided to a mechanism that dispensed the material, the mechanism that dispensed the material including a plurality of nozzles; and
an integrated circuit manufacturing equipment, the integrated circuit manufacturing equipment being configured to employ the mechanism that dispensed the material to perform deposition on a wafer.

Claim 22 (previously presented): The system of claim 21 wherein the output signal is indicative of a mass of the material.

Claim 23 (previously presented): The system of claim 21 wherein the output signal is indicative of a drop velocity of the material.

Claims 24-26 (canceled)

Claim 27 (new): The method of claim 16 further comprising:
prior to using the print head to deposit the material on the wafer:
dispensing a second droplet from a second nozzle of the print head;
detecting a presence of the second droplet;
generating a second output signal indicative of a second amount of the second droplet;
comparing the second amount of the second droplet to the known good amount; and
calibrating the second nozzle of the print head based on the comparison of the second amount to the known good amount.